

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

Summary of the Office Action

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by Matsuura (U.S. Patent No. 6,510,111).

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Matsuura in view of Takamine (U.S. Patent No. 5,517,474).

Summary of the Response to the Office Action

No changes to the claims have been proposed by this response. Claims 1-2 remain currently pending.

Claim Rejection Under 35 U.S.C. §102(e)

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by Matsuura. This rejection is respectfully traversed for at least the following reasons.

Applicants respectfully submit that Matsuura does not anticipate claim 1 because Matsuura does not disclose every feature of claim 1. For instance, it is respectfully submitted that Matsuura fails to teach or suggest the claimed combination as set forth in claim 1 including at least “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion.”

According to an embodiment of the present invention as claimed, a tracking servo apparatus of an optical information recording and reproducing apparatus for recording and reproducing information by irradiating a laser beam onto an optical disc, includes an optical system for obtaining a photoelectric conversion signal by photoelectrically converting reflection light which is obtained when the laser beam is irradiated onto a recording surface of the optical

disc, a tracking error signal generating portion for generating a tracking error signal indicative of a deviation amount of an irradiating position of the laser beam for a track in a disc radial direction on the recording surface by the photoelectric conversion signal, a spherical aberration detecting portion for detecting a spherical aberration caused by a thickness error of a transparent layer of the optical disc, a level correcting portion for correcting a level of the tracking error signal on the basis of a detection result of the spherical aberration detecting portion, and a driving portion for moving the irradiating position of the laser beam in the disc radial direction in accordance with the tracking error signal, the level of which has been corrected by the level correcting portion.

In contrast to Applicants' claimed combination as a whole, Matsuura teaches "a tracking controller which receives a third aberration detection signal corresponding to a tracking error and corrects the tracking error on the basis of the third aberration detection signal" at column 29, lines 43-47, as pointed out by the Examiner. That is, Matsuura teaches that the third aberration detection signal is equal to a tracking error signal indicative of a tracking error, and that the tracking error, not the tracking error signal, is corrected in accordance with the third aberration detection signal.

Matsuura further teaches a thickness/focus signal THES calculated in accordance with the respective light receiving area outputs of a photodetector 11. However, the signal THES is used for only an offset in focusing control. Thus, Applicants respectfully submit that Matsuura does not teach or suggest a configuration corresponding to "a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion," as set forth in Applicants' claim 1.

M.P.E.P. § 2131 states "[t]o anticipate a claim, the reference must teach every element of the claim." Applicants respectfully submit that since Matsuura does not teach or suggest every

feature of claim 1, Matsuura does not anticipate claim 1. Accordingly, withdrawal of the rejection of claim 1 under 35 U.S.C. §102(e) is respectfully requested.

Claim Rejection Under 35 U.S.C. §103(a)

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Matsuura in view of Takamine. This rejection is respectfully traversed for at least the following reasons.

Applicants respectfully submit that Matsuura and Takamine, whether taken separately or in combination, fail to teach or suggest every feature of claim 1, which claim 2 depends from. For instance, it is respectfully submitted that neither Matsuura nor Takamine teaches or suggests the claimed combination as set forth in claim 1 including at least “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion.”

As discussed above respect to the rejection of claim 1, Matsuura does not teach or suggest a configuration corresponding to “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion,” as set forth in Applicants’ claimed combination. In addition, it is respectfully submitted that Takamine fails to cure the deficiencies of Matsuura, since Takamine also fails to teach or suggest a configuration corresponding to “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion,” as set forth in Applicants’ claimed combination.

In contrast to Applicants’ claimed combination, Takamine teaches that a technique regarding control of the level of a track error signal. In particular, Takamine discloses a tracking controller in which a galvano mirror recorder 19 is used as a fine tracking actuator. A tracking error signal obtained from an output of a divider 18, which is based on output signals of a photosensor 12, is supplied as a drive signal to a driving circuit 26 for driving the galvano mirror

recorder 19 through a differential amplifier 31, a phase compensation circuit 22 and an adding circuit 32. By driving the galvano mirror recorder 19, a light spot is controlled to be placed on the center of a track of a disk 7. The differential amplifier 31 is supplied with an output signal of a gain adjustment circuit 30, and the level of the tracking error signal is controlled in accordance with the gain adjustment by the gain adjustment circuit 30. See, for example, Fig. 4 of Takamine.

However, when the galvano mirror recorder 19 of Takamine rotates, deviation of a track position occurs due to an offset of the track error signal against the position of the light spot applied on the track of the disk 7. Thus, Takamine discloses that the gain adjustment circuit 30 works as a circuit for performing off-tracking correction, along with a sensor 21 and a sensor circuit 29. The sensor 21 detects the rotation angle of the differential amplifier 31, and the angle detection signal is supplied to the gain adjustment circuit 30 after cutting the DC component of the angle detection signal by the sensor circuit 29. Thus, the offset of the track error signal due to the rotation of the galvano-mirror recorder 19 is corrected by the off-track correction circuit. See, for example, the Abstract of Takamine. Accordingly, Takamine also does not teach or suggest a configuration corresponding to “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion,” as set forth in Applicants’ claimed combination.

Thus, even assuming, strictly *arguendo*, that there exists motivation in the applied prior art to modify the teachings of Matsuura in view of Takamine, as asserted by the Final Office Action, Matsuura in view of Takamine would still fail to teach or suggest the claimed combination of “a level correcting portion for correcting a level of said tracking error signal on the basis of a detection result of said spherical aberration detecting portion,” as set forth in

Applicants' claim 2, especially since neither Matsuura nor Takamine discloses the level correcting portion, as set forth in Applicants' claimed combination.


M.P.E.P. §2143.03 instructs that "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." Since, in view of the above, Matsuura and Takamine, whether taken separately or in combination, fail to teach or suggest each and every feature of claim 2, it is respectfully submitted that Matsuura in view of Takamine do not render claim 2 unpatentable. Accordingly, withdrawal of the rejection of claim 2 under 35 U.S.C. §103(a) is respectfully requested.

Conclusion

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,
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